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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,920	07/31/2001	Satoshi Kondo	60188-520	5216

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MCDERMOTT WILL & EMERY LLP
600 13TH STREET, N.W.
WASHINGTON, DC 20005-3096

EXAMINER	
FLETCHER, JAMES A	

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/830,920	KONDO, SATOSHI	
	Examiner	Art Unit	
	James A. Fletcher	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4 and 7-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, 4 and 7-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3, 4, and 7-9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magee et al (5,835,493), in further view of Zhang et al (6,483,543).

Regarding claim 1, Magee et al disclose a stream converting method comprising:

- separating a first transport stream (TS) processed by a digital compression process (Col 1, lines 16-18 "The present invention relates to communicating stream oriented data, e.g., compressed video, compressed audio and associated data") into a first TS packet string formed from TS packets that have a prescribed packet identifier (Col 9, lines 22-26 "Depending on the PID of each transport packet, the DLM 110 extracts and transfers the transport packet onto the DM bus for assembly into the outputted remultiplexed transport stream by the scheduler 141") of at last one of video data and audio data (Col 2, lines 20-21 "Each transport packet can carry PES packet data,

e.g., private data, video data, or audio data") and a second TS packet string formed from TS packets that do not have the prescribed packet identifier (Col 9, lines 26-28 "Furthermore, depending on the PID of each transport packet, the DLM 110 extracts and captures the transport packet for transfer on the C bus");

- multiplexing the produced third TS packet string and the second TS packet string so as to produce a second transport stream (Col 8, lines 1-4 "a flexible remultiplexer architecture is provided for remultiplexing one or more higher layered transport streams to selectively include one or more programs, or elementary streams of programs, carried therein").
- Magee discloses converting a bit rate of a packet string so as to produce another packet string (Col 3, lines 39-41 "The video preprocessor module 17 performs different kinds of analysis and modification of the inputted digital video such as sample rate conversion"), but does not specifically disclose converting the bit rate of a compressed stream.

Zhang et al teach a method of recoding a video packet string that may be a TS packet to change its bit rate (Col 12, line 62 – Col 13, line 5 "Each of the paths A, B, C, D, E includes a rate converter for adjusting the rate of the bitstream to ensure buffer compliance. Each of the rate converters may be different. For example, the rate converter on path A may be a spatial filter and the rate converter on path C may perform a quantization step size adjustment while the rate converter on path D performs high frequency elimination. Those

skilled in the art will also recognize that the components of the recoder 408 used (e.g., the path through the recoder 408) could also be variably controlled to provide variable bit rate conversion using the recoder 408") and returning that recoded stream to the original transport stream (Col 18, lines 10-14 "On [sic] exemplary embodiment for a statistical re-multiplexer 1200 using autonomous frame processing is shown in FIG. 12 and comprises a plurality of pre-parsers 1202, a process allocator 1204, a plurality of autonomous frame recoders 1206, a re-multiplexer 1208 and a controller 1210"), providing a controlled bit rate of the output stream allowing adequate quality and channel utilization (Col 18, lines 35-38 "the algorithm may maximize the number of autonomous frame recoders in use at any time when the bandwidth utilization at the output of the re-multiplexer exceeds the channel capacity").

As suggested by Magee and taught by Zhang, modifying the bit rate of a program stream in a multiplexed stream, and returning the modified stream to the multiplexed stream provides the user with a way to control channel utilization, which prevents uncontrolled loss of data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Magee in order to modify the bit rate of a program stream in a multiplexed stream and return the modified stream to the multiplexed stream.

Regarding claim 3, Magee et al disclose a stream converting method comprising:

- extracting reference time information from the first transport stream so as to produce reference time from the reference time information (Col 12, lines 33-35 "each transport stream carries PCR's for recovering a program clock of each program carried therein");
- determining, with reference to the reference time, time of receipt of a TS packet including a head byte of a PES packet in the first TS packet string as first time of receipt (Col 12, lines 42-43 "the DLM 110 keeps track of the time each transport packet carrying a PCF is received");
- determining, with reference to the reference time, time of receipt of a head byte of each TS packet forming the second TS packet string as second time of receipt (Col 12, lines 44-45 "The DLM 110 also keeps track of when the PCR bearing transport packet is transferred on the DM bus"); and
- selecting from the second TS packet string a TS packet corresponding to the second time of receipt for output as the second transport stream, when the delayed reference time matches the second time of receipt (Col 12, lines 44-49 "Prior to transfer, the DLM 110 determines the 'dwell' time or time in which the PCR bearing transport packet has been enqueued in the DLM 110. This dwell time is added to the PCR of the transport packet prior to transfer on the DM bus").

Regarding claim 4, Magee et al disclose a stream recording method comprising:

- separating a first transport stream, processed by a digital compression process (Col 1, lines 16-18 "The present invention relates to communicating stream oriented data, e.g., compressed video, compressed audio and associated data") into a first TS packet string formed from TS packets that have a prescribed packet identifier (Col 9, lines 22-26 "Depending on the PID of each transport packet, the DLM 110 extracts and transfers the transport packet onto the DM bus for assembly into the outputted remultiplexed transport stream by the scheduler 141") of at last one of video data and audio data (Col 2, lines 20-21 "Each transport packet can carry PES packet data, e.g., private data, video data, or audio data") and a second TS packet string formed from TS packets that do not have the prescribed packet identifier (Col 9, lines 26-28 "Furthermore, depending on the PID of each transport packet, the DLM 110 extracts and captures the transport packet for transfer on the C bus");
- multiplexing the produced third TS packet string and the second TS packet string so as to produce a second transport stream (Col 8, lines 1-4 "a flexible remultiplexer architecture is provided for remultiplexing one or more higher layered transport streams to selectively include one or more programs, or elementary streams of programs, carried therein");
- extracting reference time information from the first transport stream (Col 12, lines 33-35 "each transport stream carries PCR's for recovering a program clock of each program carried therein"), and delaying reference time

represented by the reference time information by a prescribed time so as to produce delayed reference time (Col 12, lines 44-48 "Prior to transfer, the DLM 110 determines the 'dwell' time or time in which the PCR bearing transport packet has been enqueued in the DLM 110") and

- determining, with reference to the delayed reference time, time of receipt of each TS packet forming the second transport stream (Col 12, lines 48-49 "This dwell time is added to the PCR of the transport packet prior to transfer on the DM bus").
- Magee et al suggest recording the output (Col 5, lines 29-30 "The output formatter converts the transport packet data into a format suitable for transfer to a downstream device"), but do not specifically disclose that device as a recording medium.

The examiner takes official notice that devices for recording packetized video and audio data are well-known, widely used, and commercially available to the general public, and provide a means for storing audio and video programs for viewing at times convenient to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Magee et al to include recording of the remultiplexed bit stream.

- Magee discloses converting a bit rate of a packet string so as to produce another packet string (Col 3, lines 39-41 "The video preprocessor module 17 performs different kinds of analysis and modification of the inputted digital

video such as sample rate conversion"), but does not specifically disclose converting the bit rate of a compressed stream.

Zhang et al teach a method of recoding a video packet string that may be a TS packet to change its bit rate (Col 12, line 62 – Col 13, line 5 "Each of the paths A, B, C, D, E includes a rate converter for adjusting the rate of the bitstream to ensure buffer compliance. Each of the rate converters may be different. For example, the rate converter on path A may be a spatial filter and the rate converter on path C may perform a quantization step size adjustment while the rate converter on path D performs high frequency elimination. Those skilled in the art will also recognize that the components of the recoder 408 used (e.g., the path through the recoder 408) could also be variably controlled to provide variable bit rate conversion using the recoder 408") and returning that recoded stream to the original transport stream (Col 18, lines 10-14 "On [sic] exemplary embodiment for a statistical re-multiplexer 1200 using autonomous frame processing is shown in FIG. 12 and comprises a plurality of pre-parsers 1202, a process allocator 1204, a plurality of autonomous frame recoders 1206, a re-multiplexer 1208 and a controller 1210"), providing a controlled bit rate of the output stream allowing adequate quality and channel utilization (Col 18, lines 35-38 "the algorithm may maximize the number of autonomous frame recoders in use at any time when the bandwidth utilization at the output of the re-multiplexer exceeds the channel capacity").

As suggested by Magee and taught by Zhang, modifying the bit rate of a program stream in a multiplexed stream, and returning the modified stream to the multiplexed stream provides the user with a way to control channel utilization, which prevents uncontrolled loss of data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Magee in order to modify the bit rate of a program stream in a multiplexed stream and return the modified stream to the multiplexed stream.

Regarding claim 7, Magee et al do not disclose a stream recording method characterized in that the recording medium is an optical disk.

The examiner takes official notice that optical disks are well-known, widely used, and commercially available to the general public, and provide a means for storing audio and video programs for viewing at times convenient to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Magee et al to include recording of the remultiplexed bit stream on an optical disk.

Regarding claims 8 and 9, Magee et al disclose a stream converting apparatus comprising:

- a packet separating section for separating a first transport steam, processed by a digital compression process (Col 1, lines 16-18 "The present invention relates to communicating stream oriented data, e.g., compressed video, compressed audio and associated data") into a first TS packet string formed

from TS packets that have a prescribed packet identifier (Col 9, lines 22-26 "Depending on the PID of each transport packet, the DLM 110 extracts and transfers the transport packet onto the DM bus for assembly into the outputted remultiplexed transport stream by the scheduler 141") of at last one of video data and audio data (Col 2, lines 20-21 "Each transport packet can carry PES packet data, e.g., private data, video data, or audio data") and a second TS packet string formed from TS packets that do not have the prescribed packet identifier (Col 9, lines 26-28 "Furthermore, depending on the PID of each transport packet, the DLM 110 extracts and captures the transport packet for transfer on the C bus");

- a packet multiplexing section for multiplexing the third TS packet string output from the bit-rate converting section and the second TS packet string output from the packet separating section so as to produce a second transport stream (Col 8, lines 1-4 "a flexible remultiplexer architecture is provided for remultiplexing one or more higher layered transport streams to selectively include one or more programs, or elementary streams of programs, carried therein");
- a means for extracting reference time information from the first transport stream (Col 12, lines 33-35 "each transport stream carries PCR's for recovering a program clock of each program carried therein"), and delaying reference time represented by the reference time information by a prescribed time so as to produce delayed reference time (Col 12, lines 44-48 "Prior to

transfer, the DLM 110 determines the 'dwell' time or time in which the PCR bearing transport packet has been enqueued in the DLM 110"); and

- a recording control section for determining, with reference to the delayed reference time, time of receipt of each TS packet forming the second transport stream (Col 12, lines 48-49 "This dwell time is added to the PCR of the transport packet prior to transfer on the DM bus")
- Magee et al suggest recording the output (Col 5, lines 29-30 "The output formatter converts the transport packet data into a format suitable for transfer to a downstream device"), but do not specifically disclose that device as a recording medium.

The examiner takes official notice that devices for recording packetized video and audio data are well-known, widely used, and commercially available to the general public, and provide a means for storing audio and video programs for viewing at times convenient to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Magee et al to include recording of the remultiplexed bit stream.

- Magee discloses converting a bit rate of a packet string so as to produce another packet string (Col 3, lines 39-41 "The video preprocessor module 17 performs different kinds of analysis and modification of the inputted digital video such as sample rate conversion"), but does not specifically disclose converting the bit rate of a compressed stream.

Zhang et al teach a method of recoding a video packet string that may be a TS packet to change its bit rate (Col 12, line 62 – Col 13, line 5 "Each of the paths A, B, C, D, E includes a rate converter for adjusting the rate of the bitstream to ensure buffer compliance. Each of the rate converters may be different. For example, the rate converter on path A may be a spatial filter and the rate converter on path C may perform a quantization step size adjustment while the rate converter on path D performs high frequency elimination. Those skilled in the art will also recognize that the components of the recoder 408 used (e.g., the path through the recoder 408) could also be variably controlled to provide variable bit rate conversion using the recoder 408") and returning that recoded stream to the original transport stream (Col 18, lines 10-14 "On [sic] exemplary embodiment for a statistical re-multiplexer 1200 using autonomous frame processing is shown in FIG. 12 and comprises a plurality of pre-parsers 1202, a process allocator 1204, a plurality of autonomous frame recoders 1206, a re-multiplexer 1208 and a controller 1210"), providing a controlled bit rate of the output stream allowing adequate quality and channel utilization (Col 18, lines 35-38 "the algorithm may maximize the number of autonomous frame recoders in use at any time when the bandwidth utilization at the output of the re-multiplexer exceeds the channel capacity").

As suggested by Magee and taught by Zhang, modifying the bit rate of a program stream in a multiplexed stream, and returning the modified stream

to the multiplexed stream provides the user with a way to control channel utilization, which prevents uncontrolled loss of data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Magee in order to modify the bit rate of a program stream in a multiplexed stream and return the modified stream to the multiplexed stream.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fletcher whose telephone number is (571) 272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

THAI Q. TRAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600